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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,531

07/15/2005

Igor Detinkin

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EXAMINER

TON, TRI T

ART UNIT

PAPER NUMBER

2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/542,531	Applicant(s) DETINKIN ET AL.	
	Examiner Tri T. Ton	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213..

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11, 16-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 6-10, 12-15, 19 and 21-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/22/06 & 09/29/05</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 07/24/06, 03/22/06 and 09/29/06 have been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Oath/Declaration

3. The Oath and Declaration filed on 07/15/2005 is acceptable.

Abstract

4. The Abstract filed on 07/15/2005 is objected because it contains more than 150 words.

Drawings

5. The drawings filed on 07/15/2005. These drawings are objected.

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New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because in drawings, the defective places are inside but not beneath the transparent protective layer.

The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Kinney et al. (U.S. Patent No. 6,809,809). Hereafter, "Hack" and "Kinney".

Regarding Claim 1, Hack teaches a first source of illumination (Abstract, line 1), (Figure 1, element 2), illuminating said protective layer (the examiner interprets transparent materials as the protective layer) with light emitted by the first source of illumination in order to recognize defective places inside and beneath the transparent protective layer (column 1, lines 6-14), said first source of illumination emitting shortwaved light in the range that is visible for the first

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imaging sensor (Abstract, lines 9-10), (column 4, lines 10-13) the light striking said surface penetrating at least partially into the protective layer and scattering at the defective places (column 1, lines 18-21), (column 4, lines 1-3); and recognizing the defective places by the local increase in the intensity of the light picked up by the first imaging sensor in the area of the defective places (column 1, lines 11-14).

However, Hack does not teach the imaging sensor. Kinney teaches the imaging sensor associated with the light source for picking up light scattered back from the defective places (column 4 lines 15-24). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Hack by having imaging sensor for picking up light scattered back from the defective places in order to identify the layer defects.

Regarding Claim 2, Hack teaches the first imaging sensor associated with the first source of illumination is essentially only sensitive to light emitted in the wavelength range of the first source of illumination (column 3, lines 27-45).

Regarding Claim 4, Hack teaches the defective places in the transparent protective layer are turbid places (column 1, lines 8-9).

Regarding Claim 18, Hack teaches a first source of illumination (Abstract, line 11), (Figure 1, element 2) and a first imaging sensor associated with the first source of illumination (Abstract, lines 14-15), the emission spectrum of the first source of illumination encompassing

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shortwaved light that is visible for the first imaging sensor (Abstract, lines 9-10), (column 4, lines 10-13), the first imaging sensor picking up light scattered back (column 1, lines 21-25) from defective places inside and beneath the transparent protective layer (the examiner interprets transparent materials as the protective layer), (column 1, lines 6-14), and the defective places can be recognized by the local increase in the intensity of the light picked up by the first imaging sensor in the area of the defective places (column 1, lines 11-14).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Kvamme et al. (U.S. Patent No. 6,879,390). Hereafter, "Hack" and "Kvamme".

Regarding Claim 3, Hack teaches all the limitations of claim 1 as stated above except for the illumination source and the imaging sensor are arranged perpendicularly above the surface of the transparent protective layer. Kvamme teaches the illumination source and the imaging sensor are arranged perpendicularly above the surface of the substrate (column 7, lines 6-7), (column 9, lines 9-11), (Figure 2, elements 52, 64). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Hack by having the illumination source and the imaging sensor are arranged perpendicularly above the surface of the transparent protective layer in order to pick up efficiently the scattered light from the defects to detect the transparent protective layer.

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9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Deck (U.S. Publication No. 2003/0160968). Hereafter, "Hack" and "Deck".

Regarding Claim 5, Hack teaches all the limitations of claim 1 as stated above except for imaging in the form of a line on the surface and widening of the line caused by the back-scattered light. Deck teaches imaging in the form of a line on the surface of the transparent protective layer and the widening of the line caused by the back-scattered light in the area of the defective places is detected on the surface of the protective layer by the first imaging sensor (paragraph [0177], lines 7-15). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Hack by having imaging in the form of a line on the surface and widening of the line caused by the back-scattered light in order to detect the defects with sufficient size and shape.

10. Claims 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Wertz et al. (U.S. Patent No. 5,374,988). Hereafter, "Hack" and "Wertz".

Regarding Claim 11, Hack teaches all the limitations of claims 1 and 18 as stated above except for colored patterned surface and color-capable imaging sensor. Wertz teaches color defects in the colored patterned surface detected by a color-capable imaging sensor (Abstract, lines 1-4), (column 2, lines 12-16). It would have been obvious to one having ordinary skill in

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the art at the time of the invention was made to modify Hack by adding colored patterned surface and color-capable imaging sensor in order to detect the colored defects of the material.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Lin (U.S. Patent No. 6,319,349). Hereafter, "Hack" and "Lin".

Regarding Claim 16, Hack teaches all the limitations of claim 1 as stated above except for colored patterned surfaces, the transparent protective layer, laminate floor and covering elements. Lin teaches transparent protective layer of a wood or plastic laminate floor covering multi-colored printed films with a colored patterned surface (column 1, lines 12-20). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Hack by having transparent protective layer of wood or plastic laminate floor covering multi-colored printed films with a colored patterned surface in order to have a specific optical inspection method for a specific transparent protective layer.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hack et al. (U.S. Patent No. 4,725,139) in view of Buoni et al. (U.S. Patent No. 6,375,776). Hereafter, "Hack" and "Buoni".

Regarding Claim 17, Hack teaches all the limitations of claim 1 as stated above except for embossed structure. Buoni teaches the surface of the transparent protective layer being provided with an embossed structure (column 7, lines 48-64)). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Hack by

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having the embossed structure in order to test the material with polished surface with transparent layer covered the colored patterned surface.

Allowable Subject Matter

13. Claims 6-10, 12-15 and 19, 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: No prior art found by the examiner that suggested modification or combination with the cited art so as to satisfy the combination of all the limitations in claims 6-15 and 19-23.

15. As to claim 6, the prior art of record taken along or in combination, fails to disclose or render obvious “... a second source ... excites the protective layer to fluoresce with light at a second wavelength that is different from the first wavelength, the fluorescent light is picked up by an a second imaging sensor ... defective places in the transparent protective layer are recognized on the basis of local changes in the intensity of the fluorescent light.” in combination with the rest of the limitations of claims 1 and 6.

16. As to claim 19, the prior art of record taken along or in combination, fails to disclose or render obvious “... a second source ... excites the protective layer to fluoresce with light at a second wavelength that is different from the first wavelength ... a second imaging sensor ... pick up the fluorescent light of the protective layer, whereby defective places in the transparent

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protective layer can be recognized by local changes in the intensity of the fluorescent light." in combination with the rest of the limitations of claims 18 and 19.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references of Hack et al. (U.S. Patent No. 4,725,139), Kinney et al. (U.S. Patent No. 6,809,809), Kvamme et al. (U.S. Patent No. 6,879,390), Deck (U.S. Publication No. 2003/0160968), Wertz et al. (U.S. Patent No. 5,374,988), Lin (U.S. Patent No. 6,319,349) and Buoni et al. (U.S. Patent No. 6,375,776) teach of various features similar to the claimed invention.

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri T. Ton whose telephone number is (571) 272-9064. The examiner can normally be reached on 10:30am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



December 10, 2006
Examiner Tri Ton/SN



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